UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,771	09/11/2000	Madhu Yarlagadda	17887-006000	4424

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ART UNIT	PAPER NUMBER
2664	9

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Response Due 4/29/04 53P

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Office Action Summary		09/658,771	YARLAGADDA ET AL.
		Examiner	Art Unit
		Kevin Mew	2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2000* .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 9* is/are rejected.

7)☒ Claim(s) *7, 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 September 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5, 6* .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other:

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 9 is rejected under 35 U.S.C. 102(e) as being anticipated by Ladd et al. (US Patent

6,269,336).

Ladd discloses a communication node (see element 212, Figure 3) that comprises of

Voice Recognition (VRU) Client, Voice Recognition (VRU) server, and VoIP unit for

processing requests from user interactively based upon the information services desired by the

user and returns the corresponding information to the user (**integrated VoIP network**

comprising a plurality of voice processing modules for processing requests without

forwarding voice data to an end destination, see lines 4-67, col. 4, lines 1-19, col. 5 and

elements 212, 232, 234, 252, 254, 256, 248, Figure 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   **Claims 1-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ladd et al. in

view of Neubauer (US Patent 6,269,095).

Regarding claims 1 & 6, Ladd discloses a method in which the VoIP unit in a

telecommunication node (**telephone application services using a managed VOIP network**, see

lines 55-58, col. 9; note that telecommunication node 212 is the managed VoIP network) allows

users to access information via the internet using voice inputs and commands, where speech

inputs received at the VoIP unit and is converted to a VoIP protocol that would be transmitted

over the internet (**voice data transmitted over the network is codified in a native VOIP**

format, see lines 55-66, col. 9). The said method disclosed by Ladd comprises of:

a telephone switch (see element 230, Figure 3), preferably connected to the Voice

Recognition (VRU) client and the VoIP unit, receives incoming calls from the communication

device (**providing a plurality of channels for handling incoming telephone calls**, see element

204, Figure 3) routed over the internet via the VoIP unit; and a VRU client, including a random

access memory (**shared memory**, see line 17, col. 8), is capable of connecting individual

telephone lines directly to the switch (**shared memory accessible to all channels**, see lines 13-

17, col. 8 and element 230, Figure 3);

receiving a user call into the electronic network (**receiving a first incoming telephone**

call service requestor over the managed VOIP network, see lines 6-7, col. 4 and element 104,

Figure 3) that can be routed over the internet via the VoIP unit. As it is well-known in the art

teaching that one the underlying protocol of the internet is IP, and the fact that Ladd discloses the

VoIP unit is capable of receiving and converting speech inputs (**voice data**) to a VoIP protocol

that can be transmitted over the internet (see lines 55-66, col. 9), it is inherent the VoIP protocol would be encapsulated in the IP packets received;

establishing a connection or a link to the destination of the information source desired by the user (**setting up a connection between the incoming telephone call and a first one of said channels for handling the incoming telephone call**, see lines 40-43, col. 4);

processing the information retrieved from the destination of the information source and providing an output such as a speech communication response to the user based upon the retrieved information (**identifying request service**, see lines 50-53, col. 4, and **accessing response voice data responsive to the requested service**, see lines 50-56, col. 4);

As it is well-known in the art teaching that the underlying protocol of the internet is IP, and the fact that Ladd discloses the VoIP unit is capable of receiving and converting speech inputs (**voice data**) to a VoIP protocol that can be transmitted over the internet (see lines 55-66, col. 9), it is inherent the response speech communication (**response voice data**) would be encapsulated in the IP packets when transmitted over said managed VoIP network to the user (**encapsulating said response voice data in a second plurality of response IP packets; and sending said plurality of response IP packets over said managed VoIP network to the service requestor**).

Regarding claim 6, Ladd further discloses reading and decoding caller line identification (CLI) of the call and determine whether the CLI of the call is found in a stored CLI list of subscribers (**extracting calling ID line data from VOIP call signaling protocol to obtain location information about the service requestor**, see lines 6-15, col. 4). In addition, Ladd

discloses providing an announcement to the caller (**accessing customized voice data**, see lines

19-21, col. 4) after the caller is identified.

Regarding claims 1 & 6, Ladd does not explicitly show the response voice data would be

stored in the native VoIP format in a shared memory.

However, Neubauer discloses that it is well-known in the art that a VoIP gateway for

voice transmission on the internet, configured to provide IP call control and IP data transport,

provides compression/decompression of voice channels using G.723.1 vocoding (see lines 11-19,

col. 1).

Therefore, it would have been obvious to one ordinary skill in the art at the time the

invention was made to modify the VoIP unit of Ladd such that the such as the voice response

data would be stored in native VoIP format such as the VoIP format G.723.1 taught by

Neubauer. Having provided a memory means coupled to the VoIP unit for storing voice

response data in G.723.1 format would modify VoIP unit of Ladd. The motivation to do so is to

provide store voice response data in a compressed format because it would reduce the storage

capacity for storing voice data and thereby increase I/O read/writes and the overall interactive

voice response system performance.

Regarding claims 2 & 3, Ladd discloses that speech inputs (voice data) are received at the

VoIP unit and are converted to a VoIP protocol that would be transmitted over the internet (**voice

data transmitted over the network is codified in a native VOIP format**, see lines 55-66, col.

9). Also, it is well-known in the art teaching that the underlying protocol of the internet is IP that

it is inherent response speech communication (**response voice data**) would be encapsulated in

the IP packets when transmitted over said managed VoIP network to the user. By the same art

teaching, it is inherent that the IP packets received would be processed in order to extract the response speech communication out of the IP packets (**extracting voice data from said received IP packets and processing voice data in native format**). Furthermore, Ladd discloses said communication node (see element 212, Figure 3) would receive speech commands or DTMF tones (**identifying a DTMF signal and determining a rerquested service associated with an identified DTMF signal**, see lines, 17-19, col. 5) from the user to retrieve desired information, and utilize speaker verification to identify a particular speech pattern of the user (**performing speech analysis on extracted voice data to identify the service requested**, lines 55-57, 60-62, col. 6).

Regarding claim 4, Ladd discloses a VRU server receives speech communications from the user and compares the speech communications against a vocabulary in the database server unit, and then provides a specific function associated with the output signal. If the function requires text to speech (TTS) conversion, the TTS unit would be called upon to process the textual data and converts the data to voice data (**accessing voice response data and determining whether said requested service requires text to speech (TTS) conversion, if so invoking a TTS module that converts text to non-native voice data not in native VoIP format**, see lines 55-67, col. 8, and lines 1-10, col. 9).

Ladd does not explicitly show that voice data to non-native voice data and then from no-native voice data to native VoIP format.

However, Neubauer discloses that it is well-known in the art that a VoIP gateway for voice transmission on the internet, configured to provide IP call control and IP data transport,

provides compression/decompression of voice channels using G.723.1 vocoding (**native VoIP format**, see lines 11-19, col. 1).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the TTS unit of Ladd such that the voice response data being accessed would be stored in native VoIP format, such as the VoIP format G.723.1 taught by Neubauer, before the TTS unit is used to convert text into speech for transmission to the caller. Having provided a vocoder means coupled to the TTS unit for converting voice response data from non-native format to native VoIP G.723.1 format would modify TTS unit of Ladd. The motivation to do so is to convert voice response data in a compressed format because it would reduce the storage capacity for storing voice data and thereby increase I/O read/writes and the overall interactive voice response system performance.

Regarding claim 5, Ladd discloses a VRU server receives speech communications from the user and compares the speech communications against a vocabulary in the database server unit, and then provides a specific function associated with the output signal. If the function requires a speech recognition module, the automatic speech recognition (ASR) unit of the VRU server would be called upon to associate a specific function associated with the recognized voice pattern (**accessing voice response data and determining whether received voice data will be processed by a speech recognition module**, see lines 27-39, col. 9).

Ladd does not explicitly show that native VoIP format would be converted to non-native voice data prior to speech recognition by the ASR unit.

However, Neubauer discloses that it is well-known in the art that a VoIP gateway for voice transmission on the internet, configured to provide IP call control and IP data transport,

provides compression/decompression of voice channels using G.723.1 vocoding (see lines 11-19, col. 1).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the ASR unit of Ladd such that the voice response data stored in native VoIP format, such as the VoIP format G.723.1 taught by Neubauer, would be converted to non-native format prior to speech recognition. Having provided a vocoder means coupled to the ASR unit for converting response voice data from native VoIP G.723.1 format into non-native format prior to speech recognition would modify the ASR unit of Ladd. The motivation to do so is to convert voice response data from a compressed native VoIP format to a decompressed non-native format because the voice data would have to be converted into a particular non-native form supported only by the corresponding ASR unit.

Allowable Subject Matter

3.   **Claims 7 & 8** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 7, the method of claim 1 further comprising the act of providing an I/O thread for each channel managing all I/O, with I/O thread performing the following acts:

while playing a message, giving higher priority to data transmission than to data reception, and while recording a message, giving higher priority to data reception than to data transmission.

Regarding claim 8, the method of claim 1 further comprising the acts of:

        providing a plurality of message access servers for controlling access to shared memory;

and

        utilizing a service requestor ID to access a user database holding an association between

the ID and a home MAS for accessing response data for the service requestor.

Conclusion

4.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure with respect to integrated VoIP system.

     US Patent 6,584,110 to Mizuta et al.

     US Patent 6,141341 to Jones et al.

     US Patent 5,884,262 to Wise et al.

     US Patent 6,456,967 to Yeom et al.

     US Patent 6,446,127 to Schuster et al.

     US Patent 6,654,456 to Mandalia et al.

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kevin Mew whose telephone number is 703-305-5300. The

examiner can normally be reached on 9:00 am - 5:30 pm.

     If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Ngo can be reached on 703-305-4798. The fax phone number for the

organization where this application or proceeding is assigned is (703) 872-9306.

     Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703-305-3900.

RICKY NGO
PRIMARY EXAMINER

KDM
Art Unit 2664